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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,380	09/05/2003	Scott Roger Finn	138856-1	8527

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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04/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/656,380

Applicant(s)

FINN ET AL.

Examiner

Camie S. Thompson

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-22 is/are pending in the application.
- 4a) Of the above claim(s) 18-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed December 20, 2007 are acknowledged.
2. Examiner acknowledges amended claims 1-7, 9, 12, 14 and 16-17.
3. Examiner acknowledges cancelled claim 11.
4. The rejection of claims 1 and 6-10 under 35 U.S.C. 102(b) as being anticipated by EP 0526057 is overcome by applicant's amendment.
5. The rejection of claims 1, 7 and 11-17 under 35 U.S.C. 103(a) as being unpatentable over EP 0526057 in view of GB 1324898 is overcome by applicant's amendment.
6. Examiner regrets the absence of claims 2-5 from the rejection of the previous Office Action.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-10 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0526057.

The European reference discloses a composite blade that comprises a plurality of first thin successive layers of a first composite material. The reference also discloses a plurality of second successive layers of a second composite material as per instant claims 1, 8 and 14.

Art Unit: 1794

Additionally, the reference discloses a joining material for joining the first thin layers to each other and the second thin layers to each other as per instant claim 1. It is disclosed in column 3 of the reference that graphite fibers are used as the joining material. Reference claim 1 discloses that the first layers are stacked in a predetermined configuration for positioning the weakest shear plane towards the blade surface as per instant claims 6-7 and 9-10. Figure 2 of the European reference shows that the composite strip is embedded within an interior of the fan blade. Also, the figure shows that the length of each composite strip decrease as position from outside surface increases. The composite strips in the reference are contiguously layered from a first outside surface of the fan blade towards the interior of the fan blade. Figure 2 also shows that the joining material is comprised of a plurality of strips. The reference does not disclose that the plurality of elongation strips are oriented in different directions as per instant claims 12-13, 15-17. However, the reference does show in Figure 2 that the strips join the first and second thin composite layers. The first and second composite layers are in different orientation from each other. Therefore, it would have been obvious to one of ordinary skill in the art to have the plurality of joining material strips oriented in different directions in order to have areas of higher distributing shear loads for a higher strength fan blade. Also, the reference does not disclose the modulus of the joining material strips as per instant claims 2-4. However, this is an optimizable feature. Discovery of optimum values of a result effective variable involves only routine skill in the art *in re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The joining strips are attached to the first and second thin layers and it would have been obvious to one of ordinary skill in the art to have a modulus of the strips be in the range of 13,750 to 96,530 MPa in order to have a fan blade that has high shear load strength.

Response to Arguments

9. Applicant's arguments with respect to the present claims have been considered but are moot in view of the new ground(s) of rejection. Examiner regrets the absence of claims 2-5 in the previous Office Action. The European reference provides a case of prima facie obviousness due to the Figures of the reference demonstrating a plurality of strips joining the first and second thin successive layers wherein it would have been obvious to one of ordinary skill in the art to have the fiber strips oriented in different directions since the second thin layers are in a different direction from the first thin layers in order to high shear loads. The rejection is not without motivation.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris, can be reached at (571) 272-1478. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 1794

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Milton I. Cano/

Supervisory Patent Examiner, Art Unit 1794